Pollution Prevention in Auto Body and Paint Shops, November 2010

Complete the checklist to assess your shop and find areas where you can take advantage of P2 opportunities for these activities:

- Mixing and Painting
- Paint Gun Cleaning
- Solvent Recycling
- Surface Preparation, Sanding, and Filling
- Vehicle Washing
- Body Work- Vehicle Battery, Fluid, and Refrigerant Removal

Use the suggestions in the checklists to develop waste reduction goals, and to plan needed changes in shop practices to minimize waste generation and hazardous emissions.

Mixing and Painting

Mixing and Painting	Yes	No	P2 and Compliance Opportunities
Do you routinely check the manometer and change your spray booth filters when indicated?			Change exhaust filters when indicated to maintain cleaner paint jobs, and a safer worker area. Use high-efficiency, high load filters that are easy to replace by section.
Do you purchase paint booth filters that do not contain toxic compounds?			Check product labels and the Material Safety Data Sheet (MSDS) and select paint booth filters that do not contain toxic compounds.
Have you tested your waste paint booth filters to see if they are hazardous waste?			Whether or not a waste paint booth filter is hazardous depends on the paint system you are using. If testing shows that your booth filters are nonhazardous, you can assume that future spent filters are also non-hazardous as long as you are using the same paint system.
Do you keep records for coating and solvent usage?			Computerized systems and wall charts simplify recordkeeping and allow painters more production time. Computerized recordkeeping provides the opportunity to review and troubleshoot paint use to minimize paint waste and realize cost benefits.
Does your coating application method and equipment provide at least 65% Transfer Efficiency?			High Volume Low Pressure (HVLP) or other proven application method with 65% or higher transfer efficiency reduces paint waste, produces better paint jobs, and provides cost savings.
Do you take steps to improve paint estimation?			Mix on a scale and use computerized mixing and compliant mix ratios. Review records to

			identify estimation errors, then troubleshoot to save paint and reduce waste.
Do you use methods to minimize waste from paint transfers?			Use calibrated disposable paint gun liners or Teflon mixing cups.
Do you encourage paint technicians to get advanced training?			Paint manufacturers require training for their warranty. The Inter-industry Conference on Auto Collision Repair (I-CAR) and certain community colleges offer hands-on training.
Do you manage your inventory to reduce the need to dispose of aged or off-spec materials?			Use next day or weekly ordering. Store paints in a temperature-controlled environment. Install a mixing bank to keep paints from separating.
Do you strive to improve color matching to reduce waste?			Mix in small amounts. Use test panels and spray out cards. Get input from other technicians. Keep a color library.

Paint Gun Cleaning

Paint Gun Cleaning	Yes	No	P2 and Compliance Opportunities
Are you using an enclosed automatic gun washing system?			Using an enclosed automatic gun washer will reduce VOC emissions and worker exposure to solvents as well as extend solvent life.
Is paint gun cleaning done outside the mixing room?			Place cleaning equipment outside the mixing room or make sure the mixing room ventilation system is adequate to vent emissions from paint mixing and gun cleaning.
Do technicians wear appropriate gloves and respirators when cleaning paint guns?			Exposure to cleaning solvents may cause adverse health effects.
Are you using two-stage cleaning or doing an initial solvent rinse before putting your gun into the automatic washer?			Pre-cleaning heavily coated equipment extends the effective life of your cleaning solvent, reduces waste generated, and saves on solvent purchasing and waste disposal costs.
Have you considered using a low-toxicity, low-vapor-pressure cleaning solution in a self-recycling gun washer?			These solutions clean effectively, create a safer work environment, and reduce hazardous waste.

For additional tips and pollution prevention opportunities, please visit the Wyoming Department of Environmental Quality's Inspection and Compliance website at: http://deq.state.wy.us/shwd/I&C/Downloads/documents/Paint%20Contractors%20Tip%20Sheet.pdf

Solvent Recycling

Waste solvent from paint gun cleaning must be managed as hazardous waste. Off-site recycling can be costly and can add to a shops long-term liability. On-site solvent recycling may reduce solvent purchasing, disposal costs, and long-term risk .

Solvent Recycling	Yes	No	P2 and Compliance Opportunities
If you recycle solvents and paint waste on-site, are you complying with all generator requirements and recycling laws regarding on-site recycling of hazardous wastes?			Solvent recycler still bottoms are hazardous waste and must be managed as such. Recycling solvents on-site for reuse on-site does not require a hazardous waste treatment permit. However, the shop owner or operator must follow hazardous waste generator requirements.
Are you managing excess recycled solvent appropriately?			Recycled solvent may lose effectiveness over time. If solvent cannot be used for spray gun cleaning, it should be managed as hazardous waste.
Are you looking for opportunities to reuse solvent?			Allow the paint solids in the solvent used for brush and spray gun cleaning to settle back down into the bottom of the container. By decanting the clear solvent at the top for reuse, the paint "solids" at the bottom can be added back into the paint to thin it out. You can cut your solvent costs by using this recycled solvent for initial cleaning of dirty equipment and using only a small amount of new solvent for final cleaning.

Surface Preparation, Sanding, and Filling

You may generate hazardous wastes in the form of contaminated wipes, rags, and waste solvents during sanding and filling activities. Sanding and filling operations can generate dusts containing hazardous concentrations of toxic metals from paints and polyester resins, and styrene and titanium dioxide from fillers. These dusts pose a respiratory hazard and can contaminate wash water discharged to sewers and storm drains.

Prep, sanding, filling	Yes	No	P2 and Compliance Opportunities
Do you use methods to control dry sanding dust?			Use a vacuum sander or vacuum dust soon after sanding. Sand in designated, controlled area. Manage as hazardous waste or test before disposal to show non-hazardous. Don't track dust out- side or wash to gutters, streets, or storm drains.
Do you collect and manage nonhazardous sanding dust separately from hazardous sanding waste?			Vacuum or carefully sweep and collect non-hazardous body filler dust before sanding primer coats to minimize mixing non-hazardous and non-hazardous sanding waste.
Are you collecting wet sanding waste in a clarifier?			Do not wash wet sanding waste directly to the sewer. Separate solids by settling and then discharge the water to the sewer. Manage sludge as hazardous waste unless tested.
Do you use cleaning solvents with volatile organic compounds (VOCs)?			Use aqueous cleaning solutions instead of solvent based cleaners. Aqueous cleaners are non-flammable, less toxic and reduce air pollution.
Do you use an industrial laundry service for reusable shop rags?			Reduce the amount of contaminated shop rags disposed of as hazardous waste.
Do you use less toxic products?			Use fillers and surface preparation products that do not contain metals such as lead and zinc. Use aqueous or low-VOC cleaning products.

For additional tips and pollution prevention opportunities, please visit the Wyoming Department of Environmental Quality's Inspection and Compliance website at: http://deq.state.wy.us/shwd/I&C/Downloads/documents/Auto%20Body%20Shops%20Tip%20Sheet.pdf, and http://deq.state.wy.us/shwd/I&C/Downloads/documents/Vehicle%20Service%20Facilities%20Tip%20Sheet.pdf

Vehicle Washing

Vehicle washing can generate wash waters contaminated with dust, dirt, oil, grease, and other leaking vehicle fluids. Do not discharge wash water to gutters, streets or storm drains. These discharges flow to creeks, rivers, lakes, and endanger wildlife and water quality. Most local storm water agencies require vehicle washing to be done in a contained area and discharged to the sanitary sewer. The DEQ or local industrial sewer agency may require treatment in a clarifier or oil water separator before discharging to the sanitary sewer.

Vehicle washing	Yes	No	P2 and Compliance Opportunities
Do you know where your floor drains discharge?			If unsure, check with your local wastewater treatment facility to determine where all drains discharge. No hazardous waste can go down a storm drain, or enter the sanitary sewer.
Have you checked with DEQ or your local wastewater treatment facility (WWTF) for restrictions or required permits?			Use a closed-loop water recycling system. WWTFs may require a permit to discharge to the sanitary sewer and may require pretreatment in a clarifier or oil-water separator. If you treat oily water, avoid using emulsifying detergents which inhibit the separation of oil and water.
Are vehicles washed in a bermed area plumbed or pumped to a sewer to prevent wash-water from entering storm drains?			Do not allow wash water to flow to streets, gutters, and storm drains. Only clean water should enter the storm drain. Post signs at storm drains warning against discharge of any contaminated waters or materials.
Are hazardous cleaning solvents and vehicle fluids stored away from sanitary sewers or storm drains?			Do not store cleaners or hazardous materials in the wash area. Use less toxic cleaners to wipe down vehicle panels after sanding and aqueous cleaners for car washing.

For additional tips and pollution prevention opportunities, please visit the Wyoming Department of Environmental Quality's Inspection and Compliance website at: http://deq.state.wy.us/shwd/I&C/Downloads/documents/Auto%20Body%20Shops%20Tip%20Sheet.pdf, and http://deq.state.wy.us/shwd/I&C/Downloads/documents/Vehicle%20Service%20Facilities%20Tip%20Sheet.pdf

Body Work- Vehicle Battery, Fluid, and Refrigerant Removal

The oil, batteries, antifreeze, and other automobile fluids removed before repairing frames and bodies are generally hazardous wastes and must be managed accordingly. Air conditioning refrigerants must be captured and reused or sent for recycling.

Body work	Yes	No	P2 and Compliance Opportunities
Are you draining vehicle fluids and removing batteries in a designated area away from storm and sanitary drains?			Use funnels to prevent spills when removing and transferring vehicle fluids. Check parked vehicles for leaks and use drip pans. Clean up small spills right away to prevent tracking or spreading to other areas.
Do you use a certified technician to remove air conditioning refrigerants?			Federal law requires that air conditioning refrigerants be removed by a technician certified by an U.S. EPA-approved program, such as Automotive Service Excellence (ASE).

Facility-wide Hazardous Materials and Waste Management

Typical auto body shop hazardous wastes are waste paints and solvents, sanding dust, vehicle fluids, contaminated rags and absorbents, and filters.

Hazardous waste management	Yes	No	P2 and Compliance Opportunities
Do you have a hazardous materials/waste permit, as required by DEQ?			Minimize hazardous waste generation and hazardous materials inventory to reduce permit fees and requirements in most areas.
Do you have a hazardous waste identification number (EPA ID number) EPA?			Hazardous waste generators must have an EPA ID number from U. S. EPA.
Are all containers closed when not in use?			Keep containers closed when not in use to reduce VOC emissions and spills. Reduced product loss and waste disposal save money.
Hazardous waste management	**Yes**	**No**	**P2 and Compliance Opportunities**
Are your hazardous waste containers in good condition (not leaking or deteriorating) and are they compatible with the hazardous waste stored?			Store indoors or in a covered area to protect from weather, damage, and rainwater run-off.
Do all storage areas have secondary containment?			Secondary containment such as berms around storage areas and spill containment cabinets and pallets prevent spill run-off from contaminating soil and water.
Are you inspecting hazardous materials/wastes storage areas at least weekly for leaks or deteriorating containers?			Use and post a checklist to document each inspection and follow up. If leaks are found during inspection, transfer or overpack container.

Are you storing hazardous waste according to waste accumulation time limits?			Accumulation time limits depend on your generator status. Contact DEQ Hazardous Waste Division for more information.
Do you have a pollution prevention plan?			Check with DEQ for specific requirements. Make sure employees are trained appropriately.
Is your emergency equipment, as required by your emergency contingency plan, in place?			Maintain emergency equipment and spill kits and train employees on what to do during an emergency.
Are your employees trained in handling hazardous materials and wastes?			Conduct initial training for new employees and annual review of training for all employees. Have a training plan and keep training records.